



Attachment A
 Claim Comparison for Application No. 10/053,741 Office action of 9/9/2003
 Case No. 0250/US

Present or Similar?	US App. 10/053,741 Claim 1	US Pat. 6,643,024 Claim 1 (formerly 10)
No	Apparatus for illuminating an object under test in an interferometer having an optical axis, said apparatus comprising:	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:
No	at least one source of radiation; and	
No.		an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded; and
No	means for directing radiation from said source at the object from different locations that are distant from the optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within the interferometer.	means for directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer,
No.		wherein said radiation directing means comprises a radiation source and at least one optical component for receiving radiation from said radiation source and forming at least one thin ring of illumination all points of which are distant from said optical axis such that said two locations are encompassed by said thin ring of illumination, said radiation source comprising a light source and a holographic diffuser element illuminated by said focused light source to form said thin ring of illumination.

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Present or Similar?	US App. 10/053,741 Claim 25	US Pat. 6,643,024 Claim 1 (formerly 10)
Yes	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:
No.	means for locating an object to be measured along the optical axis;	
Yes	an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded	an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded; and
No	means for directing radiation onto the object to be measured from different locations that are distant from said optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within said interferometer; to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer.	means for directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer,
No.		wherein said radiation directing means comprises a radiation source and at least one optical component for receiving radiation from said radiation source and forming at least one thin ring of illumination all points of which are distant from said optical axis such

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		that said two locations are encompassed by said thin ring of illumination, said radiation source comprising a light source and a holographic diffuser element illuminated by said focused light source to form said thin ring of illumination.
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Present or Similar?	US App. 10/053,741 Claim 1	US Pat. 6,643,024 Claim 4 (formerly 13)
No	Apparatus for illuminating an object under test in an interferometer having an optical axis, said apparatus comprising:	An interferometric apparatus: having an optical axis, said interferometric apparatus comprising:
No		means for locating an object to be measured along the optical axis;
No	at least one source of radiation; and	
No		an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded
No	means for directing radiation from said source at the object from different locations that are distant from the optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within the interferometer.	means for directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer
No.		wherein said means for directing radiation comprises a point source and an arrangement for optically rotating said point source around said optical axis at a predetermined rate such that radiation emanating from said point source appears to be originating from said two different locations, said arrangement comprising a pair of serially arranged acousto-optic modulators.

Present or Similar?	US App. 10/053,741 Claim 25	US Pat. 6,643,024 Claim 4 (formerly 13)
Yes.	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:
Yes.	means for locating an object to be measured along the optical axis;	means for locating an object to be measured along the optical axis;
Yes.	an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded	an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded
No.	means for directing radiation onto the object to be measured from different locations that are distant from said optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within said interferometer to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer.	means for directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer
No.		wherein said means for directing radiation comprises a point source and an arrangement for optically rotating said point source around said optical axis at a predetermined rate such that radiation emanating from said point source appears to be originating from said two different locations, said arrangement comprising a pair of serially arranged acousto-optic modulators.

Present or Similar?	US App. 10/053,741 Claim 1	US Pat. 6,643,024 Claim 5 (formerly 14)
No.	Apparatus for illuminating an object under test in an interferometer having an optical axis, said apparatus comprising:	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:
No.		means for locating an object to be measured along the optical axis;
No.		an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded; and
No.	at least one source of radiation; and	
No.	means for directing radiation from said source at the object from different locations that are distant from the optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within the interferometer.	means for directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer,

No.		wherein said means for directing radiation comprises a point source and an arrangement for optically rotating said point source around said optical axis at a predetermined rate such that radiation emanating from said point source appears to be originating from said two different locations, said arrangement comprising a pair of serially arranged electro-optic modulators.
	US App. 10/053,741 Claim 25	US Pat. 6,643,024 Claim 5 (formerly 14)
Yes.	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:
Yes.	means for locating an object to be measured along the optical axis;	means for locating an object to be measured along the optical axis;
Yes.	an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded	an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded; and
No.	means for directing radiation onto the object to be measured from different locations that are distant from said optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within said interferometer to generate interfering wavefronts corresponding to each of said locations where each wavefront	means for directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer,

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	contains substantially identical phase information about the object from said interferometer.	
No.		wherein said means for directing radiation comprises a point source and an arrangement for optically rotating said point source around said optical axis at a predetermined rate such that radiation emanating from said point source appears to be originating from said two different locations, said arrangement comprising a pair of serially arranged electro-optic modulators.

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Present or Similar?	US App. 10/053,741 Claim 1	US Pat. 6,643,024 Claim 6 (formerly 15)
No.	Apparatus for illuminating an object under test in an interferometer having an optical axis, said apparatus comprising:	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:
No.		means for locating an object to be measured along the optical axis;
No.		an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded;
No.	at least one source of radiation; and	
No.	means for directing radiation from said source at the object from different locations that are distant from the optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within the interferometer.	means for directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer,
No.		wherein said means for directing radiation comprises a point source and a fiber face plate having an input end for accepting radiation from said point source and an output end arranged so that radiation emanating from said point source appears to be originating from said two different locations.

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Present or Similar?	US App. 10/053,741 Claim 25	US Pat. 6,643,024 Claim 6 (formerly 15)
Yes.	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:
Yes.	means for locating an object to be measured along the optical axis;	means for locating an object to be measured along the optical axis;
Yes.	an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded	an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded;
No.	means for directing radiation onto the object to be measured from different locations that are distant from said optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within said interferometer to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer.	means for directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer,
No.		wherein said means for directing radiation comprises a point source and a fiber face plate having an input end for accepting radiation from said point source and an output end arranged so that radiation emanating from said point source appears to be originating from said two different locations

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Present or Similar?	US App. 10/053,741 Claim 1	US Pat. 6,643,024 Claim 8 (formerly 17)
No.	Apparatus for illuminating an object under test in an interferometer having an optical axis, said apparatus comprising:	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:
No.		means for locating an object to be measured along the optical axis;
No.		an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded;
No.	at least one source of radiation; and	
No.	means for directing radiation from said source at the object from different locations that are distant from the optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within the interferometer.	means for directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer,
No.		wherein said means for directing radiation toward an object comprises means for assuring that radiation emanating from said two locations is substantially mutually incoherent with respect to one another.

Present or Similar?	US App. 10/053,741 Claim 25	US Pat. 6,643,024 Claim 8 (formerly 17)
Yes.	An interferometric apparatus having an optical axis, said interferometric apparatus comprising	An interferometric apparatus having an optical axis, said interferometric apparatus comprising:
Yes.	means for locating an object to be measured along the optical axis;	means for locating an object to be measured along the optical axis;
No.	an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded	
No.	means for directing radiation from said source at the object from different locations that are distant from the optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within the interferometer.	means for directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer,
No.		wherein said means for directing radiation toward an object comprises means for assuring that radiation emanating from said two locations is substantially mutually incoherent with respect to one another.

Present or Similar?	US App. 10/053,741 Claim 53	US Pat. 6,643,024 Claim 10 (formerly 22)
No.	An illumination method for use with an interferometer having an optical axis, said illumination method comprising the steps of:	An interferometric method for use with an interferometer having an optical axis, said interferometric method comprising the steps of:
No.		locating an object to be measured along the optical axis;
No.	generating radiation from at least one source; and	
No.		providing an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded;
No.	directing radiation from said at least one source toward an object to be measured from different locations that are distant from said optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within the interferometer.	directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer
No.		wherein said radiation directing step comprises forming at least one thin ring of illumination all points of which are distant from said optical axis such that said two locations are encompassed by said thin ring of illumination, said thin ring of illumination being formed by directing light onto a holographic diffuser element.

Present or Similar?	US App. 10/053,741 Claim 53	US Pat. 6,643,024 Claim 13 (formerly 25)
No.	An illumination method for use with an interferometer having an optical axis, said illumination method comprising the steps of:	An interferometric method for use with an interferometer having an optical axis, said interferometric method comprising:
No.		locating an object to be measured along the optical axis;
No.	generating radiation from at least one source; and	
No.		providing an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded;
No.	directing radiation from said at least one source toward an object to be measured from different locations that are distant from said optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within the interferometer.	directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer,
No.		wherein said step of directing radiation toward an object comprises the further step of assuring that radiation emanating from said two locations is substantially mutually incoherent with respect to one another.

Present or Similar?	US App. 10/053,741 Claim 70	US Pat. 6,643,024 Claim 10 (formerly 22)
Yes.	An interferometric method comprising the steps of:	An interferometric method for use with an interferometer having an optical axis, said interferometric method comprising the steps of:
Yes.	locating an object to be measured along an optical axis	locating an object to be measured along the optical axis;
Yes.	arranging optical components adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded	providing an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded;
No.	directing radiation onto the object to be measured from different locations that are distant from said optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within said interferometer to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer.	directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer
No.		wherein said radiation directing step comprises forming at least one thin ring of illumination all points of which are distant from said optical axis such that said two locations are encompassed by said thin ring of illumination, said thin ring of illumination being formed by directing light onto a holographic diffuser element.

Present or Similar?	US App. 10/053,741 Claim 70	US Pat. 6,643,024 Claim 13 (formerly 25)
Yes.	An interferometric method comprising the steps of:	An interferometric method for use with an interferometer having an optical axis, said interferometric method comprising:
Yes.	locating an object to be measured along an optical axis	locating an object to be measured along the optical axis;
Yes.	arranging optical components adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded	providing an optical arrangement adapted to at least in part cooperate with an object to form an interferometer and facilitate the generation of interfering wavefronts in which phase information about the object is encoded;
No.	directing radiation onto the object to be measured from different locations that are distant from said optical axis such that radiation from said locations is incident to the same points on the object along optical paths having substantially identical optical path differences within said interferometer to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer.	directing radiation onto the object to be measured from at least two different locations that are distant from said optical axis to generate interfering wavefronts corresponding to each of said locations where each wavefront contains substantially identical phase information about the object from said interferometer,
No.		wherein said step of directing radiation toward an object comprises the further step of assuring that radiation emanating from said two locations is substantially mutually incoherent with respect to one another.